A MANUAL OF CANNING AND PRESERVING

THEODORA M. CARRELL

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A MANUAL
OF
CANNING AND PRESERVING

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BY

THEODORA M. CARRELL

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INTRODUCTION

This book is based on my own experience in canning and preserving, first for the family and then, in The Laboratory Kitchen, for numerous private families. The recipes, except those under the Cold-Pack Method, are the same that I used for my customers. In recent summers I have tested the Cold-Pack Method and have had uniformly excellent results. For the recipes under this method I am indebted to various government and state bulletins, chiefly those of Connecticut.

My aim has been, first, to gather into one convenient manual all the material a housewife would need for this important branch of cooking; and, second, to treat sterilization, for instance, in a simple yet comprehensive way, so that those who make a study of cooking may grasp the principle and apply it wherever needed.

My earlier book was used in some of the County Cooking Classes in New York state, and it is my hope that this one may be found useful in stimulating zeal for conservation or in making lighter the labor of preserving fruits and vegetables. Certainly the food situation of the world and the reasons for thrift here at home continue to make conservation imperative. May the number of housewives increase who find in this branch of cooking a pleasure absent from the getting of meals; namely, a degree of permanence in the results of their labors. Few moments are prouder than those spent in regarding the shining, many-colored rows of glasses, bottles and jars that contain the stored-up beauty, flavor and nourishment of the garden and orchard products. I remember pleasantly the caller who talked more of the colors of my jellies than of their taste, and said something about sunshine captured. The union of thrift-born satisfaction and joy in a beautiful product is something that repays much effort.

T. M. C.

Springfield, Mass.,
March, 1919.

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A MANUAL
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CHAPTER I

WARES AND UTENSILS

Suitable Ware For Canning

Wares suitable for cooking fruit are aluminum, enamel ware or granite ware. Size, of course, depends upon quantities desired; but fruit suffers from being cooked in too large quantities, because the process is too slow, and the flavor and color are changed. Therefore medium-sized kettles are best. For ordinary families a set of preserving kettles, holding respectively four, eight, and ten or twelve quarts, would be useful. A larger kettle would be desirable for making grape juice.

Utensils Necessary or Desirable for Putting Up Fruit

Several agate or aluminum kettles.

A long-handled cup or dipper (agate).

A slender-necked funnel, agate or aluminum.

A wide-necked funnel, agate or aluminum.

A skimmer.

A colander of agate.

A boiler and wooden rack fitted to slip into it, or

A sterilizer.

Two or three paring knives.

Several shallow pans, some of agate ware.

A wooden or porcelain potato masher.

A pair of wooden butter-ball paddles, 4 or 4½ inches wide, for stirring up fruit from bottom of kettle.

Kitchen scales.

A "hot plate," the larger the better, or an oil or gasoline stove of reliable make.

A dairy thermometer (to use in making fruit juices).

A jar lifter.

For cold-pack canning, there are to be had several different kinds of outfits.

Equipment for Cold-pack Method

1. Home-made hot water bath outfit

Any receptacle may be used which has a tight cover and is deep enough to allow the

water to cover the tops of the jars without boiling over. A home-made canner must be provided with a false bottom or platform on which to place the cans. This should be of metal or wood, with holes sufficiently large to allow a circulation of water under and around the jars.

2. COMMERCIAL HOT WATER BATH OUTFIT.

Commercial outfits are of two types. Those for use on a cook stove and also those for use out of doors. The latter has a fire box and smoke pipe. Most commercial outfits are equipped with a lifting tray. The advantages of these over the home-made ones are: They have the necessary equipment for operation; they are built to hold several cans without loss of space and they are convenient to use.

3. WATER SEAL OUTFIT

This is so constructed that there is a double-walled bath, and a cover which projects into the water between the outer and inner walls, thus making three metal walls

and two water jackets. This makes it possible to maintain a higher and more uniform temperature than that of boiling and so reduces the time and fuel.

4. STEAM PRESSURE OUTFITS

Steam under pressure has a temperature higher than that of boiling water. Canners of this type are made to carry from five to thirty pounds of pressure. The advantages of this type of canner is that the sterilization is done in a shorter period of time.

Operation of a Home-Made Outfit

1. Have a perforated platform to allow the free circulation of water under and around the jar. Towels, paper, hay, etc., are unsatisfactory.

2. The water must cover the jars by at least an inch, that the product may be uniformly cooked.

3. The water must be hot when the jars are placed in the container.

4. Begin to count time when the water begins to boil vigorously after the jars are in.

5. Tighten the covers of the jars immediately upon removing them from the water. Do not set to cool in a draft. The loss of liquid in a jar may result because: First, the water does not cover the top of the jar; second, the product is imperfectly packed; third, the water does not circulate freely around and under the jars. After cooking there may be a loss of liquid and a space in the top of the jar. This space is perfectly sterile so do not open the jar to fill.

Containers

GLASS JARS

There are many kinds of fruit jars on the market. In choosing jars the following points are important:

a. Simplicity of construction.
b. Perfect sealing.
c. No metal (unless lacquered) in direct contact with the product.
d. Wide mouthed.
e. Easily cleaned.

RUBBERS

New rubbers must be used each year. They should be soft, elastic, fairly thick and free from odor of tar or other adulterants.

Tests

TESTS FOR SCREW-TOP JARS

1. Place top on the jar without the rubber. Seal tight. If the thumb nail can be inserted between the top and the glass, the top is probably defective.

2. Put on rubber and top, screw down tightly. Pull rubber from its position. Release it. If the rubber springs back between the top and the jar, the seal is defective.

TESTS FOR GLASS-TOP JARS

1. Place the glass top on the jar without rubber. Tap the outer edge of the top with the finger. If the top rocks it is defective.

2. The wire bail over the top should go in with a snap even if the clamp spring is down. If it does not, remove the bail and bend to make tight.

TESTS FOR RUBBERS

1. Fold a rubber in half, then fold it back on itself at same point, and if it does not crack it is safe to use it.

2. Stretch the rubber; if it springs back into shape it has elasticity and vitality.

Syrups

A thin syrup is made by using one part sugar to two or three parts water, by volume. Use for sweet fruits, as red raspberries.

A medium syrup is made by using equal parts sugar and water by volume. Good for general use.

A thick or heavy syrup is made by using two parts sugar to one part water, or three parts sugar to two parts water. Use for sour fruits, as plums, or to make a rich product.

Personal preferences vary so much that no recipe should be followed without making your own test for sweetness.

When sugar is high, a thin syrup can be substituted for a heavier one, and more sugar added when the fruit is used.

Fruit may be canned without sugar if sterilized ten minutes longer.

Object of Canning

1. To maintain the health of the family by supplying the necessary elements of diet at a time when fresh fruits and vegetables are costly or unobtainable.
2. To reduce the cost of living by canning products when they are cheapest.
3. To conserve the products of your own garden or orchard which otherwise would be wasted.
4. To have on hand an emergency supply.
5. To provide a more varied winter diet at a lower cost.

Principles in Canning

1. Thoroughly sterilize the product.
2. Seal the container air-tight.

General Suggestions for Canning

Two persons can work to better advantage than one. Let the work and space be divided so that each works to advantage.

A wire-screened, shaded, roomy veranda

is the ideal place for all preliminary work, and even for cooking if it is possible to provide for that.

Cleanliness is the first law of successful canning. Hot water, soap, soda, brushes and vigilance are indispensable. Have floor, tables, shelves, and utensils left clean and dry at night. Bacteria develop in the dark and moisture.

Dispose of waste from time to time during the day and at night. This means to burn it or remove it from the neighborhood of the canning process. Some of it is worthless and should be burned. Some is food for pigs or can be buried in the garden as a fertilizer.

Dispose of flies. Use several means, as a swatter, a trap, sticky paper. They must be banished.

Early hours are good for canning. Fruit picked in the evening and kept cool all night can be canned in less than twenty-four hours from the time of picking, and in excellent condition for the best flavor. Fruit picked very early in the day and canned at once is in ideal condition.

A separate stove and utensils for putting up fruit are very desirable. Then the preparation of meals and the canning do not interfere with each other.

Packing. Pack the jars thoroughly but avoid overpacking corn, peas, beans, asparagus and greens. Corn swells in cooking and a space should be left to allow for this.

Do not combine two recipes or two sets of instructions in canning. To do so means to fail. Remember that adequate heat, plenty of clean water, and complete sterilization are absolutely necessary.

In using steam pressure outfits, remember that too much pressure injures the quality of all food products.

Begin the canning work with a small quantity of one product the first day. Take time to do the work well, then test the products before canning a large quantity.

Avoid using too much salt in the canning of vegetables, greens, tomatoes, and sweet corn. A little sugar added before sterilization will improve the product and sometimes shorten the time required for processing.

Avoid destroying the vegetable or volatile

oils in products such as greens, cabbage, brussels sprouts, and cauliflower, when canning, but be sure to eliminate the excessive acids. This is done by blanching the product in a steamer or large dishpan (over a false bottom), with just a little water beneath the greens.

In preparing beets, leave two inches of stem and the tails on to prevent "bleeding."

In coring, peeling, and slicing apples, drop the apple product into a vessel containing cold, slightly salted water, in order to keep it from discoloring before packing.

In canning windfall apples whole, sliced, or quartered, remember that they must be sterilized enough to keep, but avoid overcooking, which reduces the product to apple sauce or discolors the pulp.

The use of preservatives or canning compounds of any kind is neither safe, economical nor practical. Most of them are harmful and the Federal Government and many states have pure food laws to forbid or restrict their use.

Standardize products, and if they are to be marketed, protect the standard and the trade

mark faithfully from year to year, through a uniform and reliable product. All canned goods offered for sale should be carefully labelled in accordance with the requirements of the State and Federal food laws.

Do not use old rubbers and do not use rubbers a second time. Put rubbers in boiling water for 20 or 30 minutes before using them. Avoid using rubbers which have the odor of tar or other adulterant, as they may spoil the taste of the product. If a rubber springs out or a cover breaks during the process, put on a new one, partially seal as before and put the jar back to cook for five minutes if fruit, ten minutes if vegetables. This must be done at once.

Caution. All products must be canned soon after being picked. Canned corn, peas, beans and asparagus may develop a sour taste known as "flat sour." This may be avoided by having the product freshly gathered and by carrying the process through without delay. These points are very important. Corn, peas and beans should not be over ripe. Corn should be used between the milk and dough stage.

Do not prepare at one time more of a product than will fill two or three jars, and as soon as a jar is ready put it in the cooker.

In using a pressure cooker put the jars in as filled but do not tighten the cover of the cooker until all are in place.

Terms Used in Canning

Blanching means immersing in hot water or placing in steam over boiling water.

Reasons for blanching:

1. To eliminate objectionable acids and acrid flavors.
2. To reduce bulk.
3. To soften some vegetables that they may pack better.
4. To render possible the one period process of sterilization instead of the fractional or intermittent method.

Cold Dipping means prompt immersion of the blanched article in cold water. Use the coldest obtainable, and observe that there should be enough water to chill entire mass at once.

Reasons for cold dipping:

1. To harden the pulp under the skin and thus permit the removal of the skin without injury to the pulp.
2. To "set" the color.
3. To make it easier to handle the product.

Sterilization

This is the process of destroying living microscopic organisms. In respect to fruit juices, canned fruits, etc., its object is to destroy the yeast and mold bacteria that will otherwise spoil the juice or fruit. These plants are killed at the temperature of boiling water or somewhat below that, but their spores are not. The object of re-sterilizing juices (see page 68) is to destroy the spores which have developed over night into germs capable of causing fermentation or molding.

It is better to keep fruit juices at 180° for thirty minutes, than at a higher temperature for a shorter time. Boiling changes the flavor.

Directions for Sterilizing Utensils

To sterilize jars, bottles or glasses without special apparatus, use a boiler, a large kettle, or a deep pan that can be covered. Put glassware into warm water, after washing and rinsing well, cover vessel, and boil at least twenty minutes. When juice or jelly is ready to be poured into the bottles or glasses, remove them from water one at a time, using a strainer or large spoon, and avoiding getting fingers or towel inside mouth of jar or glass. Fill at once.

Rubber Rings should be washed in soapy water, rinsed, and boiled at least twenty minutes just before they are adjusted on jars.

Glass Covers of fruit jars should be sterilized with jars. If jars can stand in vessel for sterilizing, covers and rubbers can be put in place, and handling simplified. Jars should be one-third full of water.

Sterilize whatever you use to transfer juice or fruit from one vessel to another, as funnel, cup or dipper.

Towels. A towel which has been thor-

oughly washed and rinsed and dried in the sunshine may be considered practically sterile.

Don'ts

Don't wipe a sterilized article.

Don't put your fingers inside jars, glasses, or covers.

Don't use fruit that is stale. Cut out all soft or bruised spots. Fresh fruit has flavors that are soon lost. Put it up, if possible, the day it is picked.

Don't allow waste to lie about the kitchen or kitchen porch. It ferments, it attracts flies, it may be the cause of your fruit spoiling.

CHAPTER II

CANNED FRUITS

THERE follow three distinct methods of canning fruit, each with its own advantages and disadvantages. By the first or oldest method, the fruit is cooked in the syrup and transferred to the jars. One advantage of this method is that the jars can be more completely filled with fruit. Unless you have a sterilizer or a boiler and rack, it is easier than the second method. One disadvantage of the first method is that the fruit is much more likely to fall to pieces. By the second method, the fruit is cooked in the jars, which are then filled with syrup. Fruits that shrink a good deal when heated, as most berries, make it necessary to pour in a great deal of syrup. However, this syrup can be used as any fruit juice is used, and the fruit itself is whole and of a fresh flavor. The third or "cold-pack" method has been developed recently, and is very satisfactory

for vegetables and many fruits. Flavors are surprisingly well preserved by this method, and it has proved very safe when directions are faithfully followed.

First Method of Canning

This is the old-fashioned, open kettle method. If care is taken in sterilizing jars and utensils, in keeping tables and floor clean, and in sealing and storing fruit, it gives excellent results. It is the best method for quinces and hard pears.

The following fruits are suitable to can by this method: Pineapple, cherries, peaches, pears, apples, quinces. Soft fruits are better canned by cooking in jars.

1. Utensils. Thoroughly wash jars, covers, and rubbers. These last should always be new. See general directions for sterilizing, page 17. Plan to have jars, covers, and rubber rings boil while fruit cooks, or else boil glassware first and then keep at about 180° while fruit cooks. Sterilize wide-mouthed funnel and dipper with jars. Have several perfectly clean towels ready to use in handling the hot ware.

2. We will consider, for the sake of definiteness, that it is pears we are to can. The preparation can be varied according to the fruit.

Wash, cut in halves, remove cores, peel. This is the most convenient order of procedure. If the pears are hard, drop in cold water to prevent discoloration. If they are of a soft, juicy variety, this should not be done.

SYRUP:

During the preparation, make the syrup, See page 9. Prepare only enough fruit to fill the kettle of syrup moderately full. Small quantities are more easily managed, especially by beginners.

3. Have syrup boiling when you put the fruit into it, and let it boil gently until the fruit is done. Test with a clean straw (straw is infested with yeast and mold germs, so sterilize it). In the case of pears and quinces, the longer they are boiled in the syrup the richer is their color, and the change is desirable in these fruits.

4. When the fruit is done, keep the syrup

simmering while you fill the jars. Take one jar at a time from the scalding water, drain it an instant, set it in a shallow pan of boiling water near the kettle of fruit. Adjust rubber ring, unless you have sterilized it on the jar. Now take your dipper and funnel from the boiling water and fill the can with fruit, then to overflowing with syrup. Without getting your fingers inside the cover, adjust it and seal jar. Set it on a wooden surface and it will not crack.

When your jars are all filled, wash off the surfaces as soon as you can handle them, and invert them till next morning. If they are not air-tight you will find a mass of tiny bubbles. If jar is cracked, remove fruit to a freshly sterilized jar, and proceed as in second method, 3. If fault is in the rubber, put on a fresh one and sterilize as in second method, 3.

Second Method of Canning

1. Utensils. Wash jars and covers, rinse, turn upside down to drain, each jar with its cover on the upturned bottom. Wash rubbers in warm soapsuds and rinse. Adjust

rubber to each jar before filling it with fruit. To save time, put boiler or sterilizer on the stove, with rack in it. Partly fill with water, but do not let it reach more than 100° F. before the jars are ready.

2. Prepare fruit as in first method, but drop it into jars at once. Crowd the jars as full as possible without breaking the fruit. When you have as many jars filled as your sterilizer will hold, place them in it with covers set on loosely. Let water come close to tops of the jars. Put cover on the boiler, and bring to a boil, steaming until fruit is tender. Lay dipper on top of jars to sterilize it in the steam.

3. While the fruit is steaming, make the syrup, and keep it at the boil until needed. When the fruit is tender, place a shallow pan of scalding water near the kettle of syrup. Remove one jar at a time from the boiler, set it in the shallow pan, put cover in water, then fill jar with syrup. Return glass cover, and if it is a jar with the wire patent for sealing, adjust the wire on top, but do not bring the second one down to its place. If it is a Mason jar screw the rim

on part way. Return jar to sterilizer, and proceed until all are filled. Add boiling water to cover jars. Then replace cover on sterilizer and boil for ten minutes to remove all air from the covers. Remove enough water to enable you to handle jars. With a towel to protect your hand and arm from steam, you can close each jar by pushing the second wire into place while the jar still stands in the sterilizer. Set each as you remove it on a wooden surface and invert jars until perfectly cold. In the case of Mason jars, screw the rims down on removing from water. I do not recommend these jars.

The second method is recommended for berries, cherries and plums, and is also good for peaches.

Third Method of Canning Fruits

(One-Period Cold-Pack Method)

1. Utensils. Wash thoroughly, rinse and sterilize jars, tops, and rubbers, while you prepare fruit. Sterilize also whatever you

will use in handling the fruit, as spoons, dipper, or funnel.

2. Can fruit as soon as possible after picking. This means at once if you have your own garden. City dwellers can not expect to secure flavors so good as their country cousins do. Wash gently, especially in case of soft fruits. Have syrup ready for use, that is, simmering, as in previous methods.

SOFT FRUITS, SUCH AS STRAWBERRIES, BLACKBERRIES, DEWBERRIES, SWEET CHERRIES, BLUEBERRIES, PEACHES, APRICOTS, ETC.

Can the same day fruit is picked. Grade, and rinse the fruit by pouring water over it through a strainer. Cull, seed, and stem. Pack immediately in glass jars. Put rubber in place. Fill to overflowing with boiling syrup, put on cover, and half-seal. Sterilize in hot-water bath outfit sixteen minutes; in water-seal outfit, ten minutes; steam-pressure outfit under five pounds steam, eight minutes; in aluminum pressure cooker, with ten pounds of steam, five minutes. Remove. Tighten covers. Cool and test joints. Wrap

glass jars in paper to prevent bleaching; then store.

SOUR BERRY FRUITS, SUCH AS CURRANTS, GOOSEBERRIES, CRANBERRIES, AND SOUR CHERRIES

Can same day picked. Stem, hull, and clean. Blanch in hot water one minute. Remove and dip quickly in cold water. Pack berries closely in container, put rubber in place, add boiling syrup. Seal partially, not tight. Sterilize in hot-water bath outfit sixteen minutes; in water-seal outfit, twelve minutes; in five-pound steam-pressure outfit sixteen minutes; in aluminum pressure-cooker outfit under fifteen pounds of steam, five minutes. Remove jars. Tighten covers, cool and test joints. Wrap glass jars in paper to prevent bleaching and store.

RECIPE NO. 2 FOR STRAWBERRIES

Berries canned by this recipe will not rise to the top of the syrup. Use only fresh, ripe, firm, and sound berries. Prepare the berries. Add eight ounces of sugar and two tablespoonfuls of water to each quart of berries.

Boil slowly for fifteen minutes in an enameled or acid-proof kettle. Allow the berries to cool and remain over night in the covered kettle. Pack the cold berries in sterilized glass jars. Put the rubber and cap in position, not tight. Sterilize five minutes in hot-water bath outfit; five minutes in water-seal outfit; four minutes under five pounds pressure. Remove the jars. Tighten the covers. Cool and test the joint. Wrap the jars with paper to prevent bleaching.

RHUBARB

Wash the stalks clean. Cut them into pieces three-fourths of an inch in length (do not remove the skin). Blanch them two minutes. Cold dip. Pack them in glass jars (do not use tin cans). Pour on hot thick syrup. Put the rubber and cap in position, not tight. Sterilize twenty minutes in hot-water bath outfit; fifteen minutes in water seal; fifteen minutes under five pounds pressure; ten minutes under fifteen pounds pressure. Remove the jars. Tighten the covers. Cool and test the joint.

Canning Fruit Without Sugar

All fruits can be canned successfully for future use for jelly-making, pie-filling, salad purposes, etc., without the use of sugar by simply adding hot water instead of the hot syrups.

In canning fruit without sugar, can the product the day it is picked. Cull, stem, seed, and clean fruit by placing in strainer and pouring cold water over it. Pack the product carefully in sterilized jars until full. Use tablespoon, wooden ladle, or table knife for packing purposes. Pour boiling hot water over the product in the hot jar. Place rubbers and caps in position, not tight. Place product in the sterilizer, or canner, and sterilize for the length of time given below according to the particular type of outfit used:

	Minutes.
Hot-water bath, homemade or commercial.	30
Water seal, 214°	20
5 pounds steam pressure	12
10 pounds steam pressure	10

After sterilizing remove the filled containers. Seal jars; invert to cool and test joints. Wrap in paper to prevent bleaching and store in a dry, cool place.

CHAPTER III

VEGETABLES

One-Period Cold-Pack Method

1. utensils

Wash thoroughly, rinse and sterilize jars, tops, and rubbers. Sterilize also whatever you will use in handling the products, as spoons, dipper, or funnel.

2. preparation

Can only fresh vegetables. If you have your own garden, can at once after picking. Wash gently but thoroughly. Prepare small quantities at a time.

3. recipes

Tomatoes.—Scald 1½ minutes or until skins loosen. Cold dip. Remove stems and cores. Pack directly into cans or hot jars. Press down with tablespoon (add no water). Add level teaspoonful salt per quart. Put

rubbers and caps of jars into position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	22
Water seal, 214°	18
5 pounds steam pressure	15
10 pounds steam pressure	10

Sweet Peppers.—Use sweet green peppers. Place the peppers in the oven and bake them until the skins separate from the meat. Remove the skins. Pack them solid in hot glass jars. Add water. Add one level teaspoonful of salt per quart. Put the rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	90
Water seal, 214°	75
5 pounds steam pressure	60
10 pounds steam pressure	40

Remove jars; tighten the covers; invert the jars to cool, and test the joints. Wrap the jars to prevent bleaching.

Pumpkin, Squash, Hominy, and Sauerkraut.—Prepare and cut into convenient sections. Blanch three minutes. Cold-dip; pack closely in hot jars or cans. Fill with boiling water. Add level teaspoonful salt per quart. Put rubbers and caps of jars into position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial...	120
Water seal, 214°.....	90
5 pounds steam pressure.....	60
10 pounds steam pressure.....	40

Sweet Corn.—Remove husk and silk. Blanch five minutes on cob. Cold-dip; cut corn from cob and pack directly in hot jars (¼ inch of top). Fill with boiling water. Add level teaspoonful salt per quart. Put rubbers and caps of jars into position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial...	180
Water seal, 214°.....	120
5 pounds steam pressure.....	90
10 to 15 pounds steam pressure.....	60

Corn seems to give home canners more trouble than do most products; but, with care and study, corn may be canned as easily as any other product grown in the garden. A little experience in selecting the ear and the ability to recognize corn that is just between the milk and the dough stage are important. Cut the corn from the cob with a sharp, thin-bladed knife, and pack it at once into sterilized jars. Best results can be obtained when one person cuts the corn from the cob and one person fills the containers. If it is necessary for one person to work alone he should cut off sufficient corn to fill one jar, pour on boiling water, add salt, place the rubber and the cap in position, and put the jar into the canner or hot water at once. Corn expands a little in processing, and for this reason jars should not be filled quite full. Corn that has reached the dough stage before being packed will have a cheesy appearance after canning. Corn should never be allowed to remain in the cold-dip water, and large quantities should not be dipped at one time unless sufficient help is available to handle

the product quickly. Water-logged or soaked corn indicates slow and inefficient packing.

When canning sweet corn on the cob, follow same directions but pack whole ears in jars instead of the cut-off corn.

Home Canning of Field Corn.—This product is commonly known as corn club breakfast food, or 4-H brand food product. The corn should be selected between the milk and the dough stage. Wide-mouthed glass jars should be used for canning this product. Avoid packing container too full, as the product swells during the sterilization period. The corn should be canned the same day it is picked from the field, if possible. The yellow field corn makes a yellow, butter-like food product when ground and canned. Avoid mixing the white and the yellow or Bloody Butcher corn in the same batch of food products. Secure a good grade of food chopper for grating the corn. Small 10-cent hand graters can be used, but work with these is too slow and tedious.

Blanch the corn ears in boiling hot water or live steam for ten minutes. Remove and dip quickly in cold water. Cut the corn

from the cob with a sharp, thin-bladed knife. Feed the corn to the food chopper and grind to a pulp. Cook this product in a kettle, add one level teaspoonful of salt to each quart, and a little butter, and sweeten a trifle with sugar. Cook (stir while cooking) until the product has assumed a thickened or paste-like mass. Then pack this product immediately in tin cans or hot glass jars to one-fourth inch of the top. Seal jars by placing rubber and cap in position. Place jars in wash boiler or sterilizer and process for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial...	180
Water seal, 214°.....	120
5 pounds steam pressure.....	60
10 to 15 pounds steam pressure.....	50

After this product has been sterilized and cooled and stored away, it will form a solid, butter-like mass, which when removed whole from the jars or pack may be cut in convenient slices for toasting, frying, and baking purposes, and will make a delicious food

product, palatable, economical, and nourishing.

Vegetables such as Wax Beans, Stringless Beans, Okra, Green Peppers, Cabbage and Brussels Sprouts.—String or hull. Blanch in live steam for five to ten minutes. Remove and dip quickly in cold water. Pack in hot jars or tin cans and add boiling hot water until jars or tin cans are full. Add one level teaspoonful of salt to each quart. Put rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial...	120
Water seal, 214°.....	90
5 pounds steam pressure.....	60
10 pounds steam pressure.....	40

Lima Beans, Peas, and Other Vegetables or Combinations of Them.—Blanch in live steam for five to ten minutes. Dip quickly in cold water. Pack immediately in hot glass jars. Add boiling hot water to fill container. Add level teaspoonful salt per quart. Place rubbers and caps of jars in position,

not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial...	180
Water seal, 214°.....	120
5 pounds steam pressure.....	60
10 to 15 pounds steam pressure.....	40

Remove from container; tighten cover; invert to cool, and test the joints. Wrap in paper to prevent bleaching, and store.

Peas.—A cloudy or hazy appearance of the liquid when peas are keeping well indicates that the product was roughly handled in blanching and cold-dipping, or that split or broken peas were not removed before packing. When peas are too old and blanching is not done carefully, the skin becomes cracked and the liquid cloudy. Some waters of high mineral content have a tendency to increase cloudiness, also to harden the peas.

Cauliflower.—Use the flowered portion. Plunge it into cold brine (one-half pound salt to twelve quarts of water). Allow the cauliflower to remain in this brine for one

hour. Blanch it three minutes and dip quickly into cold water. Pack it in hot glass jars or tin cans. Fill with boiling water and add a level teaspoonful of salt per quart. Put rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	60
Water seal, 214°	40
5 pounds steam pressure	30
15 pounds steam pressure	20

Remove the jars; tighten covers; invert jars to cool, and test the joint. Wrap the jars with paper to prevent bleaching.

Mushrooms.—Caution: Unless you are absolutely sure that you know a mushroom when you see it, do not run the risk of gathering and using for food what you think are mushrooms. A large number of persons are poisoned every year because of carelessness in this regard. Many very poisonous plants closely resemble edible mushrooms. Can mushrooms immediately after picking;

if allowed to stand they become unfit for use.

Wash and trim the mushrooms. If small, can them whole; if large, they may be cut into sections. Blanch the mushrooms in boiling water five minutes. Remove and plunge them quickly into very cold water. Pack in hot glass jars and add boiling water to cover; add one level teaspoonful of salt to the quart. Place rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	90
Water seal, 214°	80
5 pounds steam pressure	50
15 pounds steam pressure	30

Remove the jars; tighten covers; invert jars to cool, and test the joints. Wrap jars in paper. If canning in tin, always use lacquered cans. Do not fail to blanch and cold-dip mushrooms before packing. After opening containers, remove the mushrooms immediately and use them as quickly as possible.

Root and Tuber Vegetables, Such as Carrots, Parsnips, Salsify, Beets, Turnips, and Sweet Potatoes.—Grade for size, color, and degree of ripeness. Wash thoroughly, use vegetable brush. Scald or blanch in hot water sufficiently to loosen the skin. Dip quickly into cold water. Scrape or pare to remove skin. Pack whole vegetables, slices, or cross-section pieces in hot glass jars. Add boiling hot water until full. Add level teaspoonful salt to quart. Place rubbers and tops of jars in position; partially seal, but not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial.....	90
Water seal, 214°	80
5 pounds steam pressure.....	60
10 pounds steam pressure.....	40

Remove jars from canner; tighten covers; invert to cool, and test joints. Wrap in paper and store.

How to Prevent the Fading of Beets.—Small beets that run forty to the quart are the most suitable size for first-class packs. The older the beet the more chance there is

for loss of color. When preparing the beet leave on two inches of the stem and all of the tail while blanching. Blanch not more than five minutes, and cold-dip. The skin should be rubbed from the beet, not peeled. Beets should be packed whole, if possible. Well-canned beets will show a slight loss of color when removed from the canner, but will brighten up in a few days.

Greens or Potherbs.—A large number of cultivated and wild greens are edible, and if canned by this method will make a succulent and valuable food for the winter and spring months. Among the cultivated greens are Swiss chard, kale, Chinese cabbage leaves, upland cress, French endive, cabbage sprouts, turnip tops, young tender New Zealand spinach, beet tops, dandelion, young tender dasheen sprouts, native mustard, Russian mustard, collards, and tender rape leaves. Among the wild greens are pepper cress, lamb's quarter, sour dock, smartweed, sprouts, purslane, or "pusley," pokeweed sprouts, dandelion, marsh marigold, wild mustard, and milkweed (tender sprouts and young leaves).

Can greens the day they are picked. Wash clean, sort thoroughly, allowing no foreign weeds, leaves or other vegetable matter to remain. Rid the greens of all sand, dirt, dry, and decayed or diseased leaves. Place the greens in a crate or cheesecloth and blanch in live steam either in an improvised homemade steamer or regular commercial steamer for fifteen minutes. Remove the greens and plunge quickly into cold water. Place on the table and cut into convenient lengths. Pack tight in hot jars. Add hot water to fill the container and season to taste. The product will be slightly improved if a few strips of boiled bacon or chipped beef are added. A little olive oil also improves the flavor. If using glass jars, place rubbers and tops in position; partially seal. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	120
Water seal, 214°	90
5 pounds steam pressure	60
10 pounds steam pressure	40

Remove from canner; tighten covers of jars; invert to cool, and test the joints. Wrap in paper to prevent bleaching, and store.

Vegetable Combinations

Corn and Tomato Combination.—Blanch fresh corn on the cob five minutes, cold-dip quickly. Cut the corn from the cob, cutting from tip to butt. Scald the tomatoes one and one-half minutes and cold-dip. Remove the skin and core. Chop tomatoes into medium-sized pieces. Mix thoroughly two parts of tomatoes with one part of corn. Pack the mixture in hot glass jars. Add a level teaspoonful of salt per quart. Put rubbers and caps in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	120
Water seal, 214°	120
5 pounds steam pressure	60
15 pounds steam pressure	45

Remove the jars; tighten the covers; invert the jars to cool, and test the joints. Wrap the jars with paper to prevent bleaching.

Corn, Tomato, and String Bean Combination.—Use one part of corn, one part of green string beans, and three parts of tomatoes. Blanch fresh corn on the cob for five minutes and cold-dip. Cut the corn from the cob, cutting from tip to butt. Prepare string beans and cut them into convenient lengths. Blanch them four minutes and cold-dip. Blanch the tomatoes one to three minutes and cold-dip. Remove the skin and core. Cut the tomatoes into medium-sized pieces. Mix thoroughly. Pack the mixture in hot glass jars or enameled tin cans. Put rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes.
Water bath, homemade or commercial	120
Water seal, 214°	120
5 pounds steam pressure	60
15 pounds steam pressure	45

Remove the jars; tighten covers; invert the jars to cool, and test the joints. Wrap the jars with paper to prevent bleaching.

TOMATOES FOR STEWS, SCALLOPS AND SOUP

Use tomatoes too large to can whole, and cook in open kettle without water for twenty minutes. Break them up, and stir until there is sufficient juice to keep them from burning. Allow a teaspoonful of salt to a quart.

Transfer this pulp to jars already sterilized, putting on rubber rings before filling, and making sure that no pulp or seeds are on top of rubber rings. Half-seal, and put into sterilizer as the jars are filled. When last jar is in, cover with hot water, boil ten minutes to remove air from covers and complete sterilization.

CHAPTER IV

JELLIES

Description of Fruit Jelly

Before going further, a description of the substance aimed for—that elusive substance, a good fruit jelly—should be given. Ideal fruit jelly is a beautifully colored, transparent, palatable product obtained by so treating fruit juice that the resulting mass will quiver, not flow, when removed from its mold; a product with texture so tender that it cuts easily with a spoon, and yet so firm that the angles thus produced retain their shape; a clear product that is neither syrupy, gummy, sticky, nor tough; neither is it brittle, and yet it will break, doing this with a distinct, beautiful cleavage that leaves sparkling, characteristic faces. This is that delicious, appetizing substance, a good fruit jelly.

Miss N. E. Goldthwaite.

Jelly consists of fruit juice and sugar. To make jelly, a fruit must contain both acid and pectin, which vary greatly in quantity in different fruits and in the same fruit at different stages. Fruits poor in pectin, as cherries, will not "jell." Fully ripened fruits have less pectin, therefore choose under-ripe currants and grapes. Pectin occurs in different parts of the fruit; in quinces the cores are rich in pectin; in citrus fruits (oranges, grape-fruit, etc.) the seeds and peel contain it in abundance. Fruits rich in pectin, as apples, may be added to fruits having little pectin, and a good jelly will be obtained.

General Principles of Jelly Making

The fruit must be fresh and clean. In the case of fruits that are rich in sugar and poor in pectin when dead ripe, use under-ripe fruit. This is true of grapes, and even of some currants.

Use little water with juicy fruits, cover such fruit as quinces.

Bring fruit to a boil, then simmer until tender. Hard boiling changes the flavor.

The amount of sugar to be added to the strained juice depends upon its acidity and pectin. Sour fruits, such as currants and quinces, which are also rich in pectin, take sugar in the proportion of pound for pound or pound to pint (1:1). With sweet fruits, use less sugar, especially if they have little pectin.

THE ALCOHOL TEST FOR PECTIN

Take a tablespoon of juice from the kettle after it has boiled half or three-quarters of an hour; cool it in a glass; add a tablespoonful of grain alcohol and shake gently. If you find a gelatinous mass in a lump, add sugar in the proportion of pound for pound. If the pectin is precipitated, but not in a mass, use less sugar.

TEST TO DETERMINE WHEN JELLY IS DONE

Boil after adding sugar five to ten minutes. Dip up a little jelly on a spoon, and cool it. If it falls from the spoon in flakes or little sheets, it is done.

Mistakes to Avoid

Soft Jelly. Jellies sometimes are syrupy because more sugar has been used than the fruit juices require, or because before the sugar was added the boiling was not continued long enough to drive off excessive water.

Tough Jelly. Jellies are tough because too small an amount of sugar has been used for the quantity of juice, or because boiling was continued after the jellying point had been reached.

Crystals in Jelly. Crystals appear throughout the jelly because of the excess of sugar; also because the juice has been boiled to too great a concentration before the addition of sugar.

Cloudy Jelly. This may be due to cooking the fruit too long before straining off the juice, or to not having used sufficient care in straining.

Straining Juice for Jelly

Make jelly bags of coarse, white flannel. Do not use them after they become much

thickened. As gathering string run tape through a wide hem at top.

Devices for holding jelly bags when dripping:

A hook or nail in the edge of a shelf, which is above a broader shelf or table.

A bracket with a projecting arm, such as bird cages hang on. This can be put up over the kitchen table or sink shelf.

Small quantities drip faster with less waste of juice. Instead of squeezing bags when they cease to drip, lay them in an enameled pan. Considerable juice will run out, and no cloudiness result.

Recipes

RED CURRANT JELLY

Wash currants, mash with porcelain or wooden potato masher, and cook with little or no water. Simmer until the skins are drained of their juice, and pale when removed from the liquid. Strain through freshly scalded jelly-bags (see page 17).

Weigh juice, and add equal weight of sugar when the time comes.

Return juice to stove, boil ten minutes, test for pectin if you are uncertain. Meanwhile, heat sugar if convenient. Boil from five to ten minutes after adding sugar. Test. Pour into glasses just removed from boiling water. Next morning cover with very hot paraffine, then with tin covers.

Six quarts currants make from twelve to fifteen glasses of jelly. Currants vary in juice and glasses in size.

BLACK CURRANT JELLY

These currants require water in cooking, say enough to cover. With this exception, proceed as with red currants. This jelly has a very decided flavor which is much liked by many people.

RED CURRANT AND RASPBERRY JELLY

The raspberry flavor is so decided that one part of raspberries to two or even three of currants is sufficient. The fruits may be mixed at any stage of the process, which is identical with that for currant jelly.

BLACKBERRY JELLY

Currant jelly is a type, and the process is the same for all fruits. With acid fruits use a pound of sugar to a pound of juice. With sweet fruits, such as blackberries, reduce the proportion of sugar to three-fourths or two-thirds by weight. Apple juice added to sweet juices makes them more certain to jell, and is not detected in strong-flavored juices. Add one-fourth sour apple juice to blackberry juice, and use three-fourths pound of sugar to a pound of juice.

GRAPE JELLY

Select under-ripe grapes. If quite green, make like currant jelly. If partly ripe, add a little less sugar. If you use ripe grapes, add apple juice to secure enough pectin. A third apple juice will not perceptibly change flavor.

QUINCE JELLY

Wash fruit and cut into pieces without paring. Remove cores only if wormy. Cook slowly in water enough to cover. Proceed

as with currant jelly. If you like the deeper color boil longer after adding sugar, but not too long or the jelly will be either ropy or hard.

APPLE JELLY

Proceed as with quince jelly. For variety, put cinnamon sticks in the boiling juice, removing before you add sugar.

OR

Drop a clean rose geranium leaf in a glass just before pouring in jelly. Leave it in the jelly.

MINT JELLY

Boil fresh, washed mint leaves in a little water while apples are cooking for jelly. Strain the mint juice into apple juice. Test for strength by tasting. Color with proper vegetable coloring matter, which can be had at a drug store.

CRABAPPLE JELLY

Is made like quince and apple jelly.

To Conserve the Pulp left after straining out juice for jelly, a good quality of jam may

be made by adding a little water, perhaps a little unstrained fruit, and sugar in the proportion of three-fourths pound of sugar to a pound of pulp. Cook ten minutes after adding sugar. Here is a sample recipe:

Grape Marmalade. When juice ceases to drip, put pulp aside until jelly is made. Then rub it through a sieve to remove seeds and skins. Weigh, and add equal weight of sugar, or less if grapes are ripe, or if you prefer less. Boil five to ten minutes, stirring frequently, and pour into sterilized glasses.

About Keeping Jelly

In my opinion, no method of covering jelly is so good as that of our grandmothers: a circle of paper cut to fit, dipped in brandy, and laid on the top of the jelly when set; a larger circle, dipped in white of egg and pasted on over the top of the glass; a circle of cloth pasted on over all. The brandy discourages germs already, perhaps, fallen on the jelly; the white of egg makes an air tight seal; the cloth covering protects the paper from being broken. It is a great deal more

trouble to do all this than to use paraffine and a tin cover, but when it can be done it is most satisfactory. Substitute grain alcohol for brandy.

Storing jelly. Jelly should be stored in a cool, dry place. It will bear a warm atmosphere better than a damp atmosphere, if the choice is between a dry, warm place and a cool, damp one.

CHAPTER V

JAMS

STRAWBERRY JAM

One quart berries; two-thirds their weight of sugar.

Wash and hull berries. Put them, with sugar, in a small kettle, over a slow fire. With a wooden butter-ball paddle, scrape the mass from the bottom of the kettle to prevent burning, until it is juicy enough not to need it. The paddle does not break up the berries so much as a spoon. Boil three minutes. If you take only one quart of berries at a time, you will have jam with unbroken berries, very rich. Pour into sterilized glasses; cover with paraffine when cool.

RASPBERRY JAM

The red raspberries make the finer jam. If you are canning them, select the largest for canning, and make the smallest into jam.

Weigh berries, and allow two-thirds or three-fourths as much sugar.

Cook in small quantities, and do not boil longer than necessary to make the jam thick enough, for long boiling hardens the seeds. Pour into sterilized glasses; cover with paraffine when cool.

RASPBERRY AND CURRANT JAM

Varying proportions may be used, according to taste. One part raspberries to two of currants is sufficient to give a pronounced raspberry flavor. Use equal parts by weight of sugar, or nearly that. Pour into sterilized glasses; cover with paraffine when cool.

BLACK CURRANT JAM

This is a great favorite in England, and has a spicy quality that makes it very good with meats.

Black currants have little juice and therefore should be cooked in water. "Top and tail" currants. Put enough water in the kettle nearly to cover the currants. When they are soft and broken, add sugar in the

proportion of three-fourths to one. Boil fast until stiff enough. Again, make small quantities at a time. Pour into sterilized glasses; cover with paraffine when cool.

BLACKBERRY JAM

Make the same as raspberry jam, using wild berries if obtainable.

PEACHES, PLUMS, GOOSEBERRIES, ETC.

All make good jam, and the process is the same for all, except that the quantity of sugar must be varied according to the acidity of the fruit. Do not cook too long. Very juicy fruit should boil down before sugar is added.

QUINCE JAM

Use quinces and apples together, in equal parts or according to your taste.

Core and pare, cut in small pieces, cover with cold water, and cook slowly until tender. Then add sugar equal to two-thirds weight of the cooked pulp.

CHAPTER VI

PRESERVES AND CONSERVES

RHUBARB CONSERVE

3 pounds rhubarb, cut in dice.
3 pounds sugar.
2 oranges.
¼ pound chopped walnuts.
Grated rind of 2 lemons, or 1 lemon entire.

These quantities should make nine or ten jelly glasses.

Prepare oranges as for marmalade; that is, slice sections of peel very thin, break up the pulp. Do the same with the lemon if you use the entire lemon. Put all the fruit on together, with a little water to prevent sticking at first. Cook until orange and lemon peel are tender. Add sugar, and when a little tested on ice is nearly thick enough, add nuts.

Pour into sterilized glasses; when cool, cover with melted paraffine.

PINEAPPLE AND STRAWBERRY CONSERVE

1 pint pineapple, shredded or chopped fine.
1 pint strawberries.
1 pint sugar.

This will make about five glasses. Cook all together twenty minutes.

Pour into sterilized glasses; when cool, cover with melted paraffine.

CHERRY CONSERVE

5 pounds sour cherries (weighed after stoning).
4 oranges.
5 pounds sugar.

This will make at least a dozen glasses.

Prepare oranges by slicing sections of the peel very thin, and breaking up pulp. Cook cherries and oranges until peel is tender. Add sugar and boil till juice jellies.

Pour into sterilized glasses; when cool, cover with melted paraffine.

CURRANT CONSERVE

2½ pounds currants.
2½ pounds sugar.
2 oranges.
1 pound raisins.

This will make about ten glasses.

Prepare oranges as above (see cherry conserve). Cook currants and oranges, add sugar when orange peel is tender. Add raisins when conserve is nearly done, and stir constantly afterward. A wooden paddle is best.

Pour into sterilized glasses; when cool, cover with melted paraffine.

CHIPPED PEARS

8 pounds fruit when prepared.
8 pounds sugar.
2 lemons.
1 ounce white ginger root, ground, or
1½ ounces green ginger root, sliced fine.

Peel and slice pears as thin as Saratoga potatoes. Slice lemon peel very thin, cut or

break pulp into small pieces. Boil an hour; add sugar; boil two hours, or until syrup is thick.

Pour into sterilized glasses; when cool, cover with melted paraffine.

EAST INDIA CONSERVE

10 pounds yellow plum tomatoes.
10 pounds sugar.
3 lemons.
1 pound raisins.
1 ounce white ginger root, ground, or
1½ ounces green ginger, sliced fine.

This will make at least two dozen glasses.

Wash tomatoes, crush a little to start juice. Prepare lemons as for chipped pears (see above). Cook tomatoes and lemons until peel is tender. Add sugar, and when syrup is thick, raisins and ginger. Stir constantly to keep raisins from sticking to the bottom of the kettle.

Pour into sterilized glasses; when cool, cover with melted paraffine.

N. B.—Only the plum tomatoes have a peel tender enough to use.

PLUM CONSERVE

3 pounds sour plums, weighed without pits.
3 pounds sugar.
1 pound seeded raisins.
1 pound English walnuts.
2 large oranges.
1 lemon.

This makes a dozen glasses.

Prepare oranges and lemon by slicing peel very thin and breaking up pulp. Cook all together, except raisins, which should not be added until the conserve is nearly done, because they sink to the bottom and burn.

Pour into sterilized glasses; when cool, cover with melted paraffine.

GOLDEN CHIPS

5 pounds pumpkin, cut into match-like pieces.
4 pounds sugar.
5 lemons.
2 ounces green ginger.

This will make a dozen glasses.

Use grated rind and juice of lemons. Cut ginger very fine, and make the chips of pump-

kin as nearly the size of a short match as your patience will allow. Mix all together, except the ginger, and allow to stand over night. Then add ginger and cook until chips are translucent and tender, and the whole is like marmalade. It is an excellent relish, and has no suggestion of pumpkin about it.

QUINCE AND APPLE CONSERVE

Take equal parts of quinces and sour apples, cut into quarters or smaller. Sugar, four-fifths of the weight of the fruit, after cooking.

Cook fruit until quinces are soft, add sugar and boil a few minutes.

If you can quinces, this is a good way to use up the imperfect ones, and the conserve is much liked by many.

Sweet apples give a somewhat different flavor. The quantity of sugar should be reduced if sweet apples are used.

Pears may be added with or instead of apples.

CUBAN POMELETTO

Four grape fruit. Weigh pulp and juice and use equal weight of sugar.

Cook seeds and white inner skin slowly in a pint of water, boiling down at least half. Strain and add liquor to pulp and juice; bring to a boil, add sugar, cook until on cooling it forms a soft jelly.

This is a very delicate preserve.

Pour into sterilized glasses; when cool, cover with melted paraffine.

CHAPTER VII

FRUIT JUICES

These are little appreciated in this country, if we except grape juice. Their value as summer beverages and as an element in the diet is great, and the possible variety is endless. Combinations of different juices can be worked out by housekeepers who like to experiment. The following suggestions are offered:

Iced cherry juice with thin slices of orange.
Currant juice with pineapple dice.
Raspberry juice with lemon and orange slices.

All these juices are delicious with seltzer added.

All berries can be used for making juice, but those of decided flavor make the most palatable juices. Strawberries are of little value for juice.

CURRANT JUICE

10 quarts currants.
2½ pounds sugar.

This will make about ten pints of juice.

First process: After looking over fruit, wash it under a gentle stream or spray from the faucet. Put it into a suitable kettle and cover with cold water. Bring slowly to a boil; use a wooden potato masher to make sure that all the currants break and release their juice. If the water boils out rapidly, add enough to keep the mass very juicy so that it will strain rapidly. Simmer twenty minutes, strain through jelly bags, dividing quantity to hasten this process.

Second process: Put juice on stove, add sugar when the juice is steaming hot, place dairy thermometer in kettle (see page 4). When the juice is at 180 degrees F., regulate gas or move kettle back on a coal fire so as to keep the juice at 180 degrees for thirty minutes. Do not boil if you wish to keep a fine, fresh flavor. Pour into sterilized bottles, using sterilized funnel and dipper or

cup. Close bottles as they are filled. If you use corked bottles, cover corks with absorbent cotton kept in place by a rubber band around neck of bottle.

Third process: Next day, loosen patent tops of bottles; that is, raise the wire so that the top is no longer clamped down. Do not raise cap from mouth of bottle.

Put bottles into boiler, or sterilizer, in warm water. Bring rapidly to 180 degrees, standing thermometer in the water among the bottles. Keep at 180 degrees for thirty minutes. Clamp tops upon the bottles before removing from water, else air will enter. (Use a clean, sunned towel to protect your fingers).

Wash tops when bottles are cool enough to handle. Seal corked bottles with wax. Dry cotton makes a germ-proof seal.

This third process is not indispensable in case of juice to be kept in a cool, dry place and used where it is made. However, if you wish to keep fruit juices indefinitely, or ship them, it will make your juice much safer, and preserves the original flavor. It is **not** practicable with corked bottles.

RED RASPBERRY JUICE

10 quarts berries.
1¾ pounds sugar.

This will make on the average, seven pints of juice.

For process, see that for making Currant Juice, page 67.

CHERRY JUICE

This can be made by following the directions for making Currant Juice, or if cherries are canned by cooking them in the syrup, take juice left in the kettle and dilute to taste. It is one of the most delicious and satisfactory of fruit juices. Use sour cherries, and determine sugar needed by cooling a little on the ice, and tasting. If the hot juice is tasted, the test is very unreliable.

BLACKBERRY JUICE

10 quarts berries.
2 pounds sugar, or more if berries are sour.

This will make from ten to twelve pints of juice of delicious flavor.

Follow directions for making currant juice.

The wild berries are much to be preferred to cultivated ones. If only cultivated berries can be obtained, they should be thoroughly ripe.

PLUM JUICE

See directions for cherry juice.

If you do not cook your canned plums in the syrup, but wish to make the juice, take

10 pounds plums.
4 or 5 pounds sugar.

This will make fifteen to twenty pints of juice.

Burbank plums make a delicious juice of a fine color.

All these juices may be made without sugar and sweetened when used.

GRAPE JUICE, UNSWEETENED

One bushel Worden grapes will make from thirty-two to thirty-five pints of juice. One bushel of Concord grapes will make from twenty-seven to thirty pints of juice.

First process: Wash and stem grapes. (Stem them for two reasons: first, economy of space in kettles; second, because the stems contain a juice whose flavor does not improve that of the grapes). Place in a large granite kettle and cover with cold water, bringing slowly to a boil. Strain immediately. If you cannot strain all the pulp at once, keep hot what is left, but do not boil.

Second process: Put the juice back on the stove or hot plate, insert dairy thermometer, bring to 180 degrees F. (see page 67), and hold it at that temperature thirty minutes. Bottle in sterilized bottles, using the precautions suggested on pages 67-68. Seal each bottle at once, if you use patent stoppered bottles. If you use corked bottles, and wish to be very particular, fasten on top of each cork with a rubber band, a cap of absorbent cotton, not to be removed until you find the bottle cool enough to be waxed. Wax as soon as possible.

Third process: Next day, place bottles in boiler of warm water, loosen (but do not raise) patent top, stand thermometer in the water among the bottles, and bring it to 180 degrees. Keep this temperature half

an hour, then remove the bottles, closing each before taking it from the water. Wash bottles when cool enough, label and store in the dark.

This third process is not practicable if you use corked bottles. Juice in patent stoppered bottles, thus re-sterilized, will keep for years without losing flavor. Juice nine years old, opened this winter, was delicious.

GRAPE JUICE, SWEETENED

The process is identical with that for unsweetened juice, except that, at the beginning of the second process, the sugar is added. Use from three to four pounds for thirty pints of juice, according to your taste and the quality of the grapes.

FRUIT SYRUPS

These are made with the least practicable amount of water, and with sugar as for juices. They are used for ices, pudding sauces, fruit punch, etc., and can be made into beverages by adding water when wanted. As they take less space, they have that ad-

vantage for housekeepers with little storage room.

Proceed as with fruit juices. For home consumption, one sterilization in the bottles or jars is sufficient.

CHAPTER VIII

FRESH FRUITS

FRESH CHERRIES

8 quarts sour cherries.
1 quart or more of vinegar, not too acid.
8 pounds sugar.

Stone cherries and cover with cold vinegar. Let stand over night. Drain thoroughly in granite colander. Add sugar and allow the mixture to stand on ice until sugar is all dissolved, stirring each day. It may take several days. Then put in jars, and seal.

FRESH CURRANTS

10 quarts currants.
Equal weight sugar.
Stem fruit. Crush a little at a time to insure leaving no whole berries.

Mix fruit and sugar and allow to stand on

ice until sugar is entirely dissolved. Put in jars and seal.

Raspberries and other small fruits may be treated in the same way as currants.

FRESH FRUITS MUST BE KEPT COLD.

CHAPTER IX

PICKLES AND RELISHES

SOUR PICKLES

Boil two quarts of vinegar, one-fourth pound salt, one ounce of ground black pepper, one ounce yellow mustard seed and one salt spoon cayenne pepper.

Put two ounces whole allspice in a crock and pour the vinegar over, while hot. When cold put in cucumbers, little onions or anything you wish. Put away in crocks or glass jars, as most convenient. Put a small piece of fresh horse-radish root in the top of each jar to prevent molding. Make sure that vinegar covers pickles. They need no cooking. If vinegar is too strong, it will shrivel pickles.

SWEET PICKLES

Follow directions for sour pickles, adding sugar to the pickling mixture. Tastes and vinegar vary so that only a suggestion as to the quantity of sugar can be given. Try two pounds to a quart of vinegar, and taste after it is cool.

Do not forget the bit of horse-radish root in each jar.

WATERMELON SWEET PICKLES

Pare and remove all pink part from rind. Cut in pieces and soak over night in weak brine with small pieces of alum in it. Drain and cover with water and vinegar. Soak until you can run a broom splint through it. Then put in colander and drain thoroughly. Put spices in a bag, bring sugar and vinegar to a boil, put fruit in a little at a time. Seal hot.

As to quantity of sugar, see under Sweet Pickles. Watermelon pickle is usually sweeter than, for instance, sweet-pickled gherkins, hence use more sugar than for gherkins.

MUSTARD CHOW-CHOW

1 peck green tomatoes.
½ peck cucumbers.
1 small cabbage.
1 quart lima beans.
1 quart small white onions.
6 medium-sized carrots, diced.
1 large head cauliflower.
¼ pound ground mustard.
1 ounce mustard seed.
1 ounce ground turmeric.
2 pounds brown sugar.
Vinegar to cover (not too strong).

Chop tomatoes, cabbage and cucumbers and leave in strong brine over night. Drain in agate-ware colander.

Cook beans, carrots, onions and cauliflower until soft.

Mix turmeric and mustard with a little vinegar and a half cup of flour. Put all together with vinegar to cover. Let come to a boil, and add cinnamon to taste.

This will make twenty quarts or more.

PICKLED PEACHES AND PEARS

1 quart vinegar.
7 pounds sugar or less according to taste.
¾ cup whole cinnamon.
½ cup whole cloves.
1 cup water.

Make a syrup of these, and when scalding hot, drop in pears or peaches, whole or in halves, and peeled. Cook till tender. Put the fruit in glass jars, bring syrup to a boil again, and fill jars to overflowing. Seal.

The quantity given will pickle an ordinary basket of peaches, which will make nine or ten quart jars.

CORN RELISH

12 ears corn.
2 large cabbages.
12 sweet peppers.
½ cup salt.
2½ quarts vinegar.
4 tablespoons dry mustard.
4 tablespoons corn starch.
6 tablespoons celery seed.
6 tablespoons mustard seed.
2 teaspoons turmeric.
2 cups sugar.

Boil corn and cut from the cob. Chop peppers and cabbage fine. Add salt, let stand one hour, drain.

Let vinegar come to a boil. Mix dry mustard, corn starch and turmeric smooth in a little cold water. Stir into boiling vinegar. Add other ingredients and boil ten minutes. This will make six or seven quarts.

FRUIT CATSUP

5 pounds fruit, as plums or grapes.
3 pounds sugar.
1 pint vinegar.
1 tablespoon each of cloves, cinnamon and allspice.
½ tablespoon salt.
½ teaspoon black pepper.

Boil half an hour, or until thick enough. The rule makes about ten half-pints.

SPICED CURRANTS

5 pounds currants (about 6 quarts).
1 pint vinegar, not too strong.
4 pounds sugar.
2 tablespoons cinnamon.
2 tablespoons cloves.

This will make ten or twelve glasses. Cook all together, and not too long, or the seeds will become very hard.

SPICED PLUM

5 pounds plums (after stoning).
5 pounds sugar.
Spices and vinegar as for currants.

This will make twelve or fourteen glasses.

PEPPER HASH

12 red peppers.
12 green peppers.
12 small onions.
3 tablespoons salt.
1 pint vinegar.
1 cup brown sugar.

Remove seeds from peppers, chop all very fine. Add salt, and simmer ten minutes. Drain it, add vinegar and sugar, and bring to a boil. Put into sterilized jars and cook in boiler or sterilizer five minutes after the water boils.

PICKLED SWEET PEPPERS, GREEN OR RIPE

They must be fresh and crisp.

Cut open, remove seeds, cut into strips. If hot, shave off midribs.

Put into boiling water for four minutes. Drain and put into very cold water for ten minutes.

Drain, and pack in sterilized jars (pints or half-pints).

Fill jars to overflowing with this syrup:

1 cup sugar.
½ teaspoon salt.
1 tablespoon whole mixed spices.

Boil syrup five minutes, skim well. After filling jars, place a small piece of horse-radish on top, and seal.

Strong vinegar should be diluted.

CHAPTER X

MARMALADES OF CITRUS FRUITS

A citrus marmalade, when perfect, consists of a soft, clear jelly, in which are thin, translucent slices of peel. These slices of peel should be very tender.

If peel is put through a meat chopper, the cells are crushed, and the marmalade will not be clear. Also, the blades of the meat chopper cannot be kept bright as a knife can be, and the acid acting on the metal produces a bad flavor. The beauty of marmalade depends upon the clearness of jelly and peel.

If citrus marmalades are boiled too long after adding sugar they become dark and unattractive.

Cook small quantities if you want the best results.

Keep citrus marmalades cold when set away during the process of making. Otherwise they will become too bitter.

There are countless recipes for orange

marmalade. Those following have proved very satisfactory.

ORANGE MARMALADE, BITTER

6 Seville oranges.
6 pints water.
6 pounds sugar.

This will make from twelve to fifteen half-pint glasses.

First process: Remove peel from oranges in quarters. Slice it very thin with a sharp knife, or cut it into thin slices with sharp scissors. Use entire peel. Remove seeds from fruit, tie them in a cheesecloth bag, and put water on sliced peel, pulp and seeds, in the kettle in which you will cook the marmalade. Cover, and set in a cool place for forty-eight hours.

Second process: Boil, with cover off, two hours. Remove bag of seeds, add sugar and boil half-hour longer. The time can be given only approximately, owing to the fact that water boils out faster some days than others. If the marmalade boils too long after the

sugar is added, it will be dark and the flavor will be injured.

Cool a small quantity to test for consistency.

Pour into scalded glasses, cover with paraffine next day. The clear jelly should be set.

ORANGE MARMALADE, NOT BITTER

6 oranges, medium size.
3 lemons.
6 pounds sugar.

This will make from fifteen to eighteen glasses.

First process: Remove peel, which must be sliced very thin with sharp knife or scissors. Use entire fruit except seeds, cutting the pulp into pieces equal, say, to a third of a section. Weigh pulp and peel when prepared and add one quart of cold water to every pound. Set it away in a cold place over night.

Second process: Boil, with cover of kettle off, until peel is tender. Set away again over night.

Third process: Weigh contents of kettle,

and put on to boil. If the weight was six pounds, or a trifle more or less, add sugar as soon as it is boiling hard. If more than six pounds, boil it down to six pounds; if less, add water. The point is to have it pound for pound. After adding sugar, boil until peel is translucent and juice jells. This should be about half an hour.

Pour into scalded glasses and when jelled cover with paraffine.

YALE MARMALADE

1 grape fruit.
1 orange.
1 lemon, all medium size.
5 pounds sugar (but see below).

This will make eleven or twelve glasses.

First process: Prepare fruit as for orange marmalade, using all the white rind of the grape fruit that clings to the yellow skin, rejecting what remains on the fruit itself. Reject also all the tough membranes, which are likewise bitter. There is enough bitterness in the peel to give it the right flavor. Slice all peel very thin. Weigh when fruit

is thus prepared, and add a quart of water for every pound. Set away over night in a cold room.

Second process: The next day boil this raw marmalade twenty minutes, and again let it stand over night in a cold room.

Third process: On the third day weigh the marmalade. It should weigh five pounds. If it varies a little, either boil it more to reduce its weight, or add less sugar, making weight of sugar and marmalade equal. Add the sugar when the marmalade boils and test after the second boiling has proceeded ten or fifteen minutes. Pour into sterilized glasses, cover next day.

Yale Marmalade should be particularly clear, of lighter color than orange marmalade, and somewhat bitter.

GRAPE FRUIT MARMALADE

3 large grape fruit.
1½ lemons.
2 quarts cold water.
5¼ pounds sugar.

Product should be a dozen glasses.

Prepare fruit by removing peel in quarter

sections, slicing this very thin; break up pulp, discarding seeds, core and membranes. Cover with two quarts cold water and set away over night. Next morning cook two or three hours in open kettle, add sugar; boil until mixture holds up peel.

(Modified from "American Cookery.") This marmalade should be light in color.

LIME MARMALADE

8 large green limes (as large as a small lemon).

Use four of these entire (except seeds). Of four use only pulp and juice. Prepare fruit as in making other citrus marmalades.

Measure quantity you now have and add three times that measure of water. Set away over night in a cold room or the ice-box.

Next day boil twenty minutes or until peel is tender. Set away again in cold place.

The third day add an equal volume of sugar, first boiling the juice and fruit ten minutes. Let the marmalade boil ten minutes after adding sugar, then test to see if it jells.

This marmalade should be light-colored and delicate, and is an agreeable variation

in citrus marmalades. Limes vary so much in size that it is impossible to state what quantity may be expected. The number of limes may be varied according to size, but if a large volume is cooked at once it will be of less delicate flavor.

CHAPTER XI

MISCELLANEOUS

MINCEMEAT, NUMBER 1

6 pounds lean beef.
2 pounds suet.
16 pounds apples.
4 pounds granulated sugar.
3 pounds brown sugar.
3 quarts boiled cider.
6 tablespoons cinnamon.
4 tablespoons allspice.
4 tablespoons nutmeg.
4 teaspoons cloves.
4 teaspoons salt.
1½ pounds raisins.

All weights should be taken after preparation of ingredients. Vary amount of sugar and spices according to taste. Boil meat slowly and skim. Boil down liquor and add to wetting. Chop meat, suet and apples separately, and chop fine. After mixing all ingredients, the mincemeat may be cooked or

not as you prefer. If it is not cooked, put a tablespoonful of brandy in the top of each jar after filling. This rule will make from twelve to fifteen quarts.

MARTHA WASHINGTON'S RECIPE FOR MINCE-MEAT

2 pounds beef.
2 pounds raisins.
2 pounds currants.
1 pound citron.
2 pounds beef suet.
1½ pounds candied lemon peel.
4 pounds apples.
2 pounds Sultana raisins.
2 pounds sugar.
2 nutmegs, grated.
¼ ounce cloves.
½ ounce cinnamon.
¼ ounce mace.
1 quart sherry } For these, substitute fruit juices, as cherry or plum juice.
1 quart brandy }
Juice and rind 2 lemons.
Juice and rind 2 oranges.

Simmer meat gently till tender, and when perfectly cold, chop meat, suet and apples separately. Mix dry ingredients, add liquids.

This rule may, of course, be modified to suit individual tastes.

TOMATO MINCEMEAT

Slice up a quantity of green tomatoes and sprinkle well with salt. Put into a bag and hang up to drip all night. The salt which is left on the tomatoes will not need washing off. In the morning take equal weights of sugar and tomatoes and cook until the tomatoes are thoroughly done. To seven pounds of the mixture of tomatoes and sugar add three pounds of seedless raisins, with mace and cinnamon to suit the taste. Cook a short time after adding the seasoning and put into jars. This will keep without being sealed and will make delicious pies, which many consider as good as those from ordinary mincemeat. Add apple when making pies, with currants, orange peel or whatever you like in mince pies.

Conserving Odds and Ends of Fruit

To use up odds and ends of fruit on the table, combine several varieties, as for punch.

Either cooked or uncooked fruits are good, or a mixture of both. Serve in punch glasses, pouring over the fruit a rich juice.

Some combinations I have used are as follows: grape fruit, orange, banana, apple, with juice and berries from the bottom of a jar of canned red raspberries.

Grape fruit, banana, stewed apricots and surplus apricot juice.

Similar combinations with cherry juice added are delicious.

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